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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,844	02/11/2004	Lon J. Wilson	1789-12301	3026

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EXAMINER

PERREIRA, MELISSA JEAN

ART UNIT	PAPER NUMBER
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1618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/776,844	Applicant(s) WILSON ET AL.	
	Examiner Melissa Perreira	Art Unit 1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 11-22 and 24-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-26 are pending in the application. Claims 11-22 and 24-26 are withdrawn from consideration. Any objections and/or rejections from previous office actions that have not been reiterated in this office action are obviated.

Response to Arguments

1. Applicant's arguments filed 2/2/07 have been fully considered but they are not persuasive.

Priority

Applicant asserts that the provisional application 60/356,856 filed 2/14/02 includes an extensive discussion of the functionalization of fullerenes with biological molecules including drugs, biotin or antibodies.

The benefit of priority to provisional application 60/356,856 is not granted to the instant claims as the provisional application 60/356,856 does not describe functionalization of fullerenes with antibiotics, especially vancomycin.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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3. Claims 1-3,6,8 and 9 are rejected under 35 U.S.C. 102(a) as being anticipated by Cubbage et al. (Eighth Annual Orthopedic Resident Research Forum, vol 8, 2002) as stated in the office action mailed 9/29/06.
4. Applicant asserts that the Cubbage et al. publication date is after that of the present application priority date.
5. The priority date given to the instant claims 1-3,6,8 and 9 is that of 2/11/03 as described in the previous office action and above as the provisional application 60/356,856 does not describe functionalization of fullerenes with antibiotics, especially vancomycin. Therefore the rejection is maintained.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-6,9,10 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cubbage et al. (Eighth Annual Orthopedic Resident Research Forum, vol 8, 2002) in view of Lei et al. (US 6,777,445B2) as stated in the office action mailed 9/29/06.
8. Applicant asserts that the Cubbage et al. publication date is after that of the present application priority date.

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9. The priority date given to the instant claims 1-6,9,10 and 23 is that of 2/11/03 as described in the previous office action and above as the provisional application 60/356,856 does not describe functionalization of fullerenes with antibiotics, especially vancomycin. Therefore the rejection is maintained.

10. Claims 1-8 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Unger et al. (US 6,123,923) in view of Monforte et al. (US 6,635,452B1) as stated in the office action mailed 9/29/06.

11. Applicant asserts that Unger et al. does not teach or suggest at least two antibiotic molecules per fullerene moiety nor does it disclose binding of the antibiotic to the photoactive agent and that Monforte et al. does not discuss how to accomplish such a difficult chemical linkage, such as attaching two antibiotic molecules per fullerene moiety.

12. Monforte et al. was used to provide the teaching that different and multiple antibiotics may be bound to the fullerene moiety. Although the recitation of fullerene moiety (as mass label compound) and antibiotics (as reactive group) are in a list with other mass label compound and reactive groups capable of binding to the mass label compound it would be obvious to one of ordinary skill to bind the fullerene (as mass label compound) to antibiotics (as reactive group) which does not exclude multiple and different antibiotics. Monforte et al. discloses that the mass labels, such as fullerenes are typically attached to reactive groups, such as antibodies for antigen-antibody

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interactions which provides for the advantage of site-directed administration of the mass labels and also antibiotics which allows for site-specific delivery of a therapeutic agent.

13. Unger et al. was used by itself to provide the teaching of targeting ligands bound to fullerene compounds for site selective interaction with desired cells and/or tissues. Inclusion of the antibiotics in the composition albeit may not be bound to the fullerene will be delivered to the desired site for therapeutic application.

14. Taken in combination the references provide for the teaching of targeting a fullerene compound to a desired site and delivering an antibiotic to a desired site for therapeutic application. It would be obvious to bind the antibiotic to the fullerene as disclosed by Monforte et al. as that would allow for a definite and direct delivery of the antibiotic to the desired site for therapeutic application and reduce the chance for delivery of the antibiotic to undesired healthy tissue and or cells.

Conclusion

No claims are allowed at this time.

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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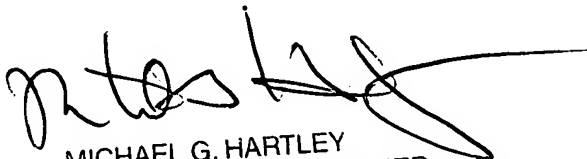
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Perreira whose telephone number is 571-272-1354. The examiner can normally be reached on 9am-5pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Hartley can be reached on 571-272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MP
March 16, 2007


MICHAEL G. HARTLEY
SUPERVISORY PATENT EXAMINER